

Northern Rockies Area Fire Behavior Forecast

Tuesday, September 19, 2006

Updated 9/18/06 1600 hrs

****Until further notice this will be the last Fire Behavior Forecast for the 2006 Fire Season****

General Fire Weather Summary: As the ridge moves east look for a beautiful Fall-like day of clear skies and mild temperatures for the eastern part of the area. Another upper level low in eastern Washington will keep cool & wet weather for the western part of the area. Another round of cloudy skies with valley rain and mountain snows, above 6000 ft.

WEST: Temperatures up in the 50s to mid 60s, relative humidities 40-50% and winds from the west 5-10 mph.

EAST: Temperatures in the low 60s to low 70s, relative humidities 25-45% and easterly winds 5-10 mph.

NORTH DAKOTA: Temperatures in the mid 50s to mid 60s, relative humidities from 40-50% and winds southeasterly 4-8 mph.

See your area fire weather forecast at [Fire Weather](#) and the [Northern Rockies Predictive Services Daily Outlook](#).

Important Area Indices: (See new Northern Rockies [ERC](#) and [1000 Hr Charts](#)).

Peak Probability of Ignition: 40% in Idaho and most of Montana, 70% for southcentral/southeastern Montana and 40% in North Dakota.

Haines Index (potential for large fire growth): VERY LOW to MODERATE East of the Divide, VERY LOW West of the Divide and in North Dakota.

Energy Release Component (ERC): Past few days of precipitation has helped the ERC's some but you could see a rebound back above the 90th percentile later on. Most areas at or below average with the exception of the Idaho Panhandle, northwest/western Montana, eastern Montana and western North Dakota which are above average.

Heavy fuel moistures: generally between 9-18%.

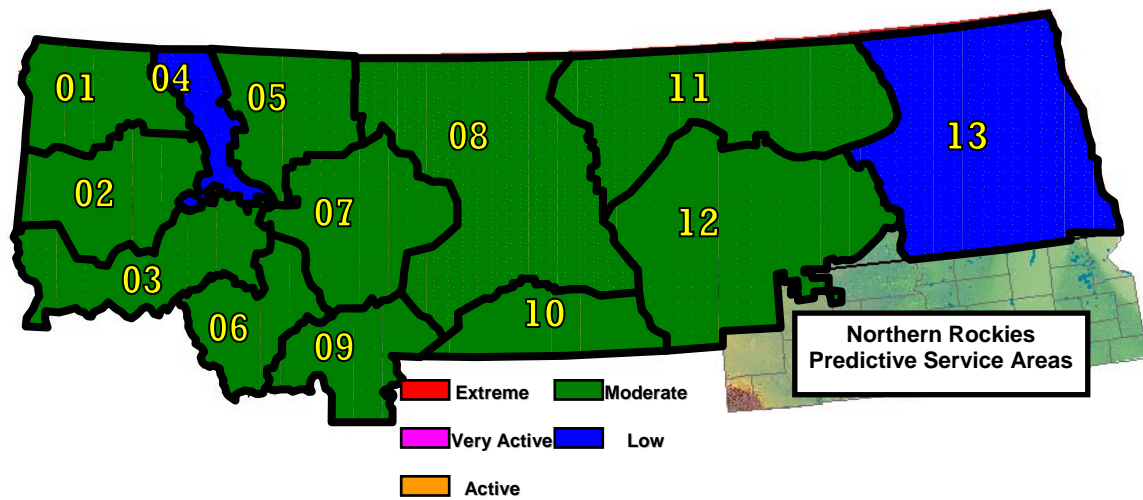
Live foliar fuel moistures: 60 - 110%.

****Fire Behavior Forecast for Initial Attack on Tuesday, September 19:**

West of the Divide: Weather will continue to be cool and wet so fire behavior potential will generally be **LOW** to **MODERATE**. BUT until the ski areas open and the cows head for the barn the heavy dry fuels will continue to hold fire with active flame, especially those areas protected from the precip or are missed altogether. Yeah there still could be some torching but not like we saw a week ago. Fire spread will be slow with most spread occurring in areas of continuous heavy fuel. Lighter fuels haven't disappeared as a fuel source either. Also take a look out your window and you'll see the vegetation has started to change with the season which means more fuel available, just waiting for the right conditions. Still picking up a few holdover fires but aren't spreading and are very low in intensity.

East of the Divide: Weather will begin to move in from the west but expect fire behavior potential to be generally **LOW** to **MODERATE**. Heavy dry fuels will continue to hold fire with active flame; especially those areas protected from the precip or are missed altogether. Isolated torching and maybe some spotting could be seen but not prolific. Fire spread will be slow to moderate with most spread occurring in areas of continuous heavy fuel. The southcentral part of the area will be warm and dry so if any area will have activity it's here. Until the long duration rains come in or aliens invade the earth we've still got heavy fuels out there ready to burn. Also remember your light fuels are very reactionary to humidities, precipitation and temperature, so don't forget about their potential for igniting too when the temps are warm and the sun is out. Also take a look out your window and you'll see the vegetation has started to change with the season which means more fuel available, just waiting for the right conditions.

****Initial Attack Fire Behavior Map for Tuesday, September 19:**



TYPICAL FIRE BEHAVIOR in Fuel Models 10 and 11 (Timber/heavy down material or Light Logging Slash)

Behave Outputs	LOW	MODERATE	ACTIVE	VERY ACTIVE	EXTREME
Rates of Spread (Ch/hr)	0-3	4-7	8-12	13-18	19+
Flame Length (Ft.)	<4	4-5	6-7	7-8	8+
Max Spot Distance (Mi.)	0-0.1	0.1-0.2	0.2-0.3	0.3-0.4	0.4-0.5

TYPICAL FIRE BEHAVIOR in Fuel Model 1 (Short Grass)

Behave Outputs	LOW	MODERATE	ACTIVE	VERY ACTIVE	EXTREME
Rates of Spread (Ch/hr)	0-10	11-20	21-40	41-95	>95
Flame Length (Ft.)	0-1	1-2	2-4	4-6	>6
Max Spot Distance (Mi.)	0-0.1	0.1-0.2	0.2-0.3	0.3-0.4	>0.4

****Benchmark Fire Behavior calculations for Tuesday, September 19:**

0% SLOPE-----

4 MPH Midflame Windspeed on 0% Slope:

FM	1Hr	10Hr	100Hr	Live	MFWS	Slope %	HROS ch/hr	HFL feet	PCROS ch/hr	SPTD miles	SZS* acres	SD feet
1	10	11	12	75	4	0	35	2	22	0.1	0.07	10
8							1	1			0.05	3
10							7	5			0.12	18
11							4	3			0.08	11

7.5 MPH Midflame Windspeed on 0% Slope:

FM	1Hr	10Hr	100Hr	Live	MFWS	Slope %	HROS ch/hr	HFL feet	PCROS ch/hr	SPTD miles	SZS* acres	SD feet
1	10	11	12	75	7.5	0	65	3	37	0.2	0.09	13
8							3	1			0.05	5
10							15	7			0.17	26
11							7	4			0.10	14

10 MPH Midflame Windspeed on 0% Slope:

FM	1Hr	10Hr	100Hr	Live	MFWS	Slope %	HROS ch/hr	HFL feet	PCROS ch/hr	SPTD miles	SZS* acres	SD feet
1	10	11	12	75	10	0	65	3	55	0.62	0.09	13
8							3	1			0.05	5
10							22	8			0.21	31
11							10	4			0.11	27

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60% SLOPE-----

4 MPH Midflame Windspeed on 60% South Facing Slope:

FM	1Hr	10Hr	100Hr	Live	MFWS	Slope %	HROS ch/hr	HFL feet	PCROS ch/hr	SPTD miles	SZS* acres	SD feet
1	10	11	12	75	4	60	65	3	22	0.1	0.09	13
8							2	1			0.05	4
10							12	6			0.15	23
11							7	3			0.09	14

7.5 MPH Midflame Windspeed on 60% South Facing Slope:

FM	1Hr	10Hr	100Hr	Live	MFWS	Slope %	HROS ch/hr	HFL feet	PCROS ch/hr	SPTD miles	SZS* acres	SD feet
1	10	11	12	75	7.5	60	65	3	55	.2	0.09	13
8							3	1			0.05	5
10							20	8			0.20	30
11							10	4			0.11	17

10 MPH Midflame Windspeed on 60% South Facing Slope:

FM	1Hr	10Hr	100Hr	Live	MFWS	Slope %	HROS ch/hr	HFL feet	PCROS ch/hr	SPTD miles	SZS* acres	SD feet
1	10	11	12	75	10	60	65	3	55	0.2	0.09	13
8							3	1			0.05	5
10							28	9			0.23	34
11							13	5			0.12	19

* Assumes 20 person crew and 2 dozers or engines in the safety zone and assumes a surface fire only NOT A CROWN FIRE.

NOTE: These are benchmark calculations based on the [Northern Rockies Predictive Services Daily Outlook](#) and NWS General Fire Weather Forecasts. They are "worst case" point source calculations for small initial attack fires, **NOT FOR PLUME DOMINATED OR EXTREME FIRE BEHAVIOR IN TIMBER**. Also see your Incident Pocket Response Guide and your Fireline Handbook- Appendix B for similar benchmark calculations and information. HROS=Head Fire Rate of Spread, HFL=Head Fire Flame Length, PCROS=Potential Crown Fire Rate of Spread, SPTD=Maximum Spotting Distance, SZS=Safety Zone Size, SD=Safety Zone Separation Distance. All calculations use BehavePlus ver3.0.1.

****5 Day Potential Fire Behavior** (based on [Northern Rockies 7 Day Significant Fire Potential](#)):

--Wednesday through Saturday: Another few days of a cool wet low pressure system affecting the region through Thursday, then maybe some nice weather for the weekend. Southcentral Montana may see a short period of **ACTIVE** fire behavior potential, but only for a day or so. The whole area should be seeing **LOW** to **MODERATE** fire behavior as the next system settles in. Great mop-up opportunities as well as direct tactics with these cooler and moister conditions. One thing to remember as fire season slows down and prescribed fire season picks up is that your heavy fuels may not have gotten the moisture they needed to keep from being completely consumed. How your wildfires burned this season will give you a taste of how your prescribed burns go if you're burning on the dry side of your prescription...just a heads up.

--Longer Term: The below average temperatures and above normal precipitation over the whole area predicted through next weekend. Expect fire behavior to be **LOW** to **MODERATE**. Beyond next week you might try the Farmers Almanac or toss some magic bones like the meteorologists do...

See 6-10 and 8-14 day outlook charts located: [6-10 Day Prognosis](#), [8-14 Day Prognosis](#).

Air Operations: **Cloudy, wet weather moving in means limited visibility for flying in some areas. Those in the sunshine should have great flying weather.**

Safety Considerations: Even though we've had rain fire season isn't over, keep in mind holdovers, fire weakened trees & snags as well as hypothermia from any cool-wet weather can make life on the line not a whole lot of fun. Keep your awareness up out there especially when you're out on mop-up or fireline rehab.

KEEP INFORMED ON WEATHER CONDITIONS AND FORECASTS &

BASE ALL ACTIONS BASED ON CURRENT AND EXPECTED BEHAVIOR OF THE FIRE!!!

Risa Lange-Navarro, Fire Behavior Analyst, Ron Hvizdak's Part-time Boss

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